Complete Summary

GUIDELINE TITLE

Practice parameter: treatment of postherpetic neuralgia. An evidence-based report of the Quality Standards Subcommittee of the American Academy of Neurology.

BIBLIOGRAPHIC SOURCE(S)

Dubinsky RM, Kabbani H, El-Chami Z, Boutwell C, Ali H. Practice parameter: treatment of postherpetic neuralgia: an evidence-based report of the Quality Standards Subcommittee of the American Academy of Neurology. Neurology 2004 Sep 28;63(6):959-65. [59 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Postherpetic neuralgia

GUIDELINE CATEGORY

Treatment

CLINICAL SPECIALTY

Dermatology
Emergency Medicine

Family Practice
Internal Medicine
Neurology
Pediatrics
Pharmacology

INTENDED USERS

Allied Health Personnel
Health Plans
Hospitals
Managed Care Organizations
Occupational Therapists
Patients
Pharmacists
Physicians

GUIDELINE OBJECTIVE(S)

To determine which treatments provide benefit in terms of decreased pain and improved quality of life in patients with postherpetic neuralgia

Note: The treatment of acute herpes zoster and the prevention of postherpetic neuralgia are beyond the scope of this parameter.

TARGET POPULATION

Patients with postherpetic neuralgia

INTERVENTIONS AND PRACTICES CONSIDERED

1. Tricyclic antidepressants
    - Amitriptyline
    - Nortriptyline
    - Maprotiline
    - Desipramine
2. Antiepileptic drugs
    - Gabapentin
    - Pregabalin
    - Carbamazepine (considered, but not recommended)
3. Opioids
    - Oxycodone, controlled-release
    - Morphine sulfate, controlled-release
    - Morphine sulfate, epidural (considered but not recommended)
    - Tramadol
4. Topical and intradermal agents
    - 5% lidocaine gel covered by occlusive dressing
    - Topical lidocaine patch
    - Aspirin ointment or cream
    - Topical capsaicin
    - Indomethacin or diclofenac/diethyl ether (considered, but not recommended

- Benzydamine cream (considered, but not recommended)
- Methylprednisolone or vincristine iontophoresis (considered, but not recommended)
- Topical lignocaine/prilocaine cream (considered, but not recommended)
- Triamcinolone intralesional injections (considered, but not recommended)
- Cryocautery (considered, but not recommended)

5. N-methyl-D-aspartate (NMDA) antagonists
    - Ketamine (considered, but not recommended)
    - Dextromethorphan (considered, but not recommended)
    - Memantine (considered, but not recommended)
6. Other treatments
    - Intrathecal preservative-free methylprednisolone
    - All of the following were considered, but not recommended:
        - Lorazepam
        - Acupuncture
        - Helium:Neon (He:Ne) laser irradiation
        - Nicardipine
        - Chlorprothixene
        - Biperiden
        - Extract of Ganoderma lucidum
        - Dorsal root entry zone lesion
        - Stellate ganglion block
        - Vitamin E
        - Zimelidine

MAJOR OUTCOMES CONSIDERED

- Pain (using visual analog score [VAS] or Likert scale)
- Quality of life
- Absolute risk reduction (ARR)
- Number needed to treat (NNT)
- Number needed to harm (NNH)

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The Quality Standards Subcommittee (QSS) searched the National Library of Medicine's Medline database and the Cochrane database for peer-reviewed articles published between 1960 and August 2003, updating in January 2004, using Medical Subject Heading (MeSH) terms herpes zoster/*complications and neuralgia/*treatment. The QSS first reviewed titles and abstracts of these articles, searching for interventions that decrease the pain of postherpetic neuralgia.

Inclusion criteria were articles 1) that addressed alleviation of pain in postherpetic neuralgia, with duration of at least 8 weeks after healing of the herpetic rash, 2) that were prospective, retrospective, or case series studies that provided clinical information on the subjects who received treatment, 3) that provided detailed methodology and a clear outcome measure, 4) whose primary purpose was to demonstrate a decrease of pain related to postherpetic neuralgia, and 5) where treatment was feasible for an outpatient setting. Based upon this initial review, selected articles were then reviewed in their entirety by two of the authors. The QSS searched for additional articles in the references of review articles on the treatment of postherpetic neuralgia, and by Medline searches using the names of authors who had published several articles on herpes zoster treatment.

NUMBER OF SOURCE DOCUMENTS

A total of 206 articles met the original Medline search criteria. A total of 111 articles pertained to the treatment of postherpetic neuralgia and were reviewed in their entirety. Forty-two met the predefined inclusion criteria. Nine additional articles meeting the inclusion criteria were found by the search of the bibliographies of review articles, by searching Medline using names of primary authors in the original search.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Evidence classification scheme of the American Academy of Neurology:

Rating of Therapeutic Article

Class I: Prospective, randomized, controlled clinical trial with masked outcome assessment, in a representative population. The following are required:

a. Primary outcome(s) is/are clearly defined.
b. Exclusion/inclusion criteria are clearly defined.
c. Adequate accounting for dropouts and crossovers with numbers sufficiently low to have minimal potential for bias
d. Relevant baseline characteristics are presented and substantially equivalent among treatment groups, or there is appropriate statistical adjustment for differences.

Class II: Prospective matched group cohort study in a representative population with masked outcome assessment that meets a-d above OR a randomized, controlled trial in a representative population that lacks one criterion a-d.

Class III: All other controlled trials (including well-defined natural history controls or patients serving as own controls) in a representative population, where outcome assessment is independent of patient treatment.

Class IV: Evidence from uncontrolled studies, case series, case reports, or expert opinion.

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

From articles meeting the search criteria, the Quality Standards Subcommittee (QSS) compiled an evidence table by extracting methodologic characteristics: method and setting of cohort assembly, number, sex, and age of patients studied, duration of symptoms, duration of follow-up, and number of subjects lost to follow-up. For class I and class II studies, the QSS calculated, where possible, absolute risk reduction (ARR) (the proportion of the control group with benefit minus the proportion of the treated group with benefit); number needed to treat (NNT) for adequate pain relief (the number of subjects who need to receive treatment for one patient to have substantial benefit, corrected for placebo response, as determined by the authors of the study); 95% confidence interval (CI) of the NNT; and number needed to harm (NNH) (the number of subjects that need to receive treatment for one patient to suffer harm), defined as an adverse event sufficient to cause withdrawal from treatment. All were calculated using intent to treat analysis. The QSS scored articles on class of evidence using criteria as listed above under "Rating Scheme for the Strength of the Evidence." If the reviewers were discordant on the level of evidence, discussion was held until the level of evidence was resolved. Based upon literature on treatment of chronic cancer pain, the QSS defined adequate pain relief of postherpetic neuralgia (in articles using the visual analog score [VAS] or a Likert scale) as reduction of pain to below 4, or reduction of the visual analog score or Likert scale by 50%. When other methods of assessment of pain reduction were used, the QSS adopted the authors' definition of moderate (or greater) improvement. Mechanical allodynia can be as debilitating as the chronic component of postherpetic neuralgia. This type of pain was not always assessed in the peer-reviewed literature. As such, it is not discussed further here.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Other

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

When formulating the recommendations the guideline developers considered the magnitude of the effect (benefit or harm of therapy, accuracy of tests, yield of studies) and the relative value of various outcomes. Under most circumstances, there is a direct link between the level of evidence used to formulate conclusions and the strength of the recommendation. This linkage is illustrated in Appendix 9 of the 2004 AAN Guideline Process Manual (see Companion Documents field). Thus, an "established as" (two class I) conclusion supports a "should be done" (level A) recommendation; a "probably effective" (two class II) conclusion supports a "should be considered" (level B) recommendation; a "possibly effective" (two class III) conclusion supports a "may be considered"

recommendation. In those circumstances where the evidence indicates that the intervention is not effective or useful, wording was modified. For example, if multiple adequately powered class I studies demonstrated that an intervention is not effective, the recommendation read, "should not be done."

There are important exceptions to the rule of having a direct linkage between the level of evidence and the strength of recommendations. Some situations where it may be necessary to break this linkage are listed below:

- A statistically significant but marginally important benefit of the intervention is observed
- The intervention is exorbitantly costly
- Superior and established alternative interventions are available
- There are competing outcomes (both beneficial and harmful) that cannot be reconciled

Under such circumstances the guideline developers may have downgraded the level of the recommendation.

From: Edlund W, Gronseth G, Yuen S, Franklin G. Clinical Practice Guideline Process Manual, 2004 Edition. American Academy of Neurology.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Translation of Evidence to Recommendations

Level A rating requires at least one convincing Class I study or at least two consistent, convincing Class II studies.

Level B rating requires at least one convincing Class II study or at least three consistent class III studies.

Level C rating requires at least two convincing and consistent Class III studies.

Rating of Recommendation

A = Established as effective, ineffective, or harmful for the given condition in the specified population

B = Probably effective, ineffective, or harmful for the given condition in the specified population

C = Possibly effective, ineffective, or harmful for the given condition in the specified population

U = Data inadequate or conflicting. Given current knowledge, treatment is unproven

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The first author drafted the document with input and approval from other work group members. After Quality Standard Subcommittee (QSS) approval, the document was circulated to members of American Academy of Neurology (AAN) Member Review Network and to heads of sections of the American Academy of Neurology. These reviews were addressed before submission to Neurology.

Final guidelines were approved by the Quality Standards Subcommittee in October 2003, by the Practice Committee in November 2003, and by the American Academy of Neurology Board of Directors in June 2004.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions of the ratings of recommendations (A, B, C, U), translation of evidence to recommendations (A-C), and rating of therapeutic articles (Class I-IV) are provided at the end of the "Major Recommendations" field.

Recommendations

1. Tricyclic antidepressants (amitriptyline, nortriptyline, desipramine, and maprotiline), gabapentin, pregabalin, opioids, and topical lidocaine patches are effective and should be used in the treatment of postherpetic neuralgia (Level A, class I and II). There is limited evidence to support nortriptyline over amitriptyline (Level B, single class II study) and the data are insufficient to recommend one opioid over another. Amitriptyline has significant cardiac effects in the elderly when compared to nortriptyline and desipramine.
2. Aspirin in cream is possibly effective in the relief of pain in patients with postherpetic neuralgia (Level C, class II and III) but the magnitude of benefit is low, as is seen with capsaicin (Level A, class I and II).
3. In countries where preservative-free intrathecal methylprednisolone is available, it may be considered in the treatment of postherpetic neuralgia (Level A, class I and II).
4. Acupuncture, benzydamine cream, dextromethorphan, indomethacin, epidural methylprednisolone, epidural morphine sulfate, iontophoresis of vincristine, lorazepam, vitamin E, and zimelidine are not of benefit (Level B, class II).
5. The effectiveness of carbamazepine, nicardipine, biperiden, chlorprothixene, ketamine, Helium:Neon (He:Ne) laser irradiation, intralesional triamcinolone, cryocautery, topical piroxicam, extract of Ganoderma lucidum, dorsal root entry zone lesions, and stellate ganglion block are unproven in the treatment of postherpetic neuralgia (Level U, single class II study and class IV studies).

6. There is insufficient evidence at this time to make any recommendations on the long-term effects of these treatments.

Definitions:

Rating of Recommendation

A = Established as effective, ineffective, or harmful for the given condition in the specified population

B = Probably effective, ineffective, or harmful for the given condition in the specified population

C = Possibly effective, ineffective, or harmful for the given condition in the specified population

U = Data inadequate or conflicting. Given current knowledge, treatment is unproven

Translation of Evidence to Recommendations

Level A rating requires at least one convincing Class I study or at least two consistent, convincing Class II studies.

Level B rating requires at least one convincing Class II study or at least three consistent class III studies.

Level C rating requires at least two convincing and consistent Class III studies.

Rating of Therapeutic Article

Class I: Prospective, randomized, controlled clinical trial with masked outcome assessment, in a representative population. The following are required:

a. Primary outcome(s) is/are clearly defined.
b. Exclusion/inclusion criteria are clearly defined.
c. Adequate accounting for dropouts and crossovers with numbers sufficiently low to have minimal potential for bias.
d. Relevant baseline characteristics are presented and substantially equivalent among treatment groups, or there is appropriate statistical adjustment for differences.

Class II: Prospective matched group cohort study in a representative population with masked outcome assessment that meets a-d above OR a randomized, controlled trial in a representative population that lacks one criterion a-d

Class III: All other controlled trials (including well-defined natural history controls or patients serving as own controls) in a representative population, where outcome assessment is independent of patient treatment

Class IV: Evidence from uncontrolled studies, case series, case reports, or expert opinion

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Decreased pain and improved quality of life in patients with postherpetic neuralgia

POTENTIAL HARMS

- While there were no severe adverse effects in the reviewed studies, there is potential for chemical meningitis and arachnoiditis with the use of intrathecal methylprednisolone. Methylprednisolone is not approved by the United States (US) Food and Drug Administration (FDA) for intrathecal use in this indication. The concurrent use of intrathecal lidocaine carries the risk of hypotension and respiratory depression. Therefore, these injections are best given by experienced medical personnel in a hospital setting.
- Amitriptyline has significant cardiac effects in the elderly when compared to nortriptyline and desipramine.
- Most of the studies reviewed for this parameter reported adverse effects caused by the study medications. These adverse effects included dizziness and somnolence due to gabapentin; dizziness, somnolence, or other adverse effects due to pregabalin; nausea and vomiting due to morphine; and burning with capsaicin.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This statement is provided as an educational service of the American Academy of Neurology (AAN). It is based on an assessment of current scientific and clinical information. It is not intended to include all possible proper methods of care for a particular neurologic problem or all legitimate criteria for choosing to use specific procedures. Neither is it intended to exclude any reasonable alternative methodologies. The American Academy of Neurology recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on all of the circumstances involved.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Patient Resources
Pocket Guide/Reference Cards
Slide Presentation

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Dubinsky RM, Kabbani H, El-Chami Z, Boutwell C, Ali H. Practice parameter: treatment of postherpetic neuralgia: an evidence-based report of the Quality Standards Subcommittee of the American Academy of Neurology. Neurology 2004 Sep 28;63(6):959-65. [59 references] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2004 Sep

GUIDELINE DEVELOPER(S)

American Academy of Neurology - Medical Specialty Society

SOURCE(S) OF FUNDING

American Academy of Neurology (AAN)

GUIDELINE COMMITTEE

Quality Standards Subcommittee of the American Academy of Neurology

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

American Academy of Neurology (AAN) Quality Standards Subcommittee Members: Gary Franklin, MD, MPH (Co-Chair); Gary Gronseth, MD (Co-Chair); Milton Alter, MD (ex-officio); Charles E. Argoff, MD; Steven A. Ashwal, MD (ex-officio); Christopher Bever, Jr., MD; Jody Corey-Bloom, MD, PhD; John D. England, MD; Jacqueline French, MD (ex-officio); Gary H. Friday, MD, MPH; Michael J. Glantz, MD; Deborah Hirtz, MD; Donald J. Iverson, MD; David J. Thurman, MD; Samuel Wiebe, MD; William J. Weiner, MD; Catherine Zahn, MD (ex-officio)

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: A list of American Academy of Neurology (AAN) guidelines, along with a link to a Portable Document Format (PDF) file for this guideline, is available from the AAN Web site.

Print copies: Available from the AAN Member Services Center, (800) 879-1960, or from AAN, 1080 Montreal Avenue, St. Paul, MN 55116.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- American Academy of Neurology (AAN) guideline development process [online]. St. Paul (MN): American Academy of Neurology. Available from the AAN Web site.
- Practice parameter: treatment of postherpetic neuralgia. An evidence based report of the Quality Standards Subcommittee (QSS) of the American Academy of Neurology. Slide presentation. St. Paul (MN): American Academy of Neurology. 54 p. Available in Power Point format from the AAN Web site.
- Treatment of postherpetic neuralgia. AAN guideline summary for clinicians. St. Paul (MN): American Academy of Neurology. 2. p. Available in Portable Document Format (PDF) from the AAN Web site.

PATIENT RESOURCES

The following is available:

- Treatment of postherpetic neuralgia. AAN guideline summary for patients. St. Paul (MN): American Academy of Neurology. 2. p. Available in Portable Document Format (PDF) from the AAN Web site.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This NGC summary was completed by ECRI on January 10, 2005.

COPYRIGHT STATEMENT

DISCLAIMER

NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion.aspx.

NGC, AHRQ, and its contractor ECRI make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

Date Modified: 3/6/2006